

**REMARKS / ARGUMENTS**

Claims 1-31 are pending in the instant application. Claim 29 was amended to clarify the claim language to further prosecution. Claims 1, 18, 24 and 29 are independent claims. The Applicant submits that the claims 1-31 define patentable subject matter in view of the following remarks and arguments.

Claim 29 is objected to for allegedly having a body indistinguishable from the preamble.

Claims 29-31 are rejected under 35 USC 101 for allegedly directing to non-statutory subject matter.

Claims 1-4, 15-20 and 23 are rejected under 35 USC 102(e) as anticipated by USP 6,226,680 ("Boucher").

Claims 10 and 11 are rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 1 above, and further in view of USPP 2002/0198934 ("Kistler").

Claims 12-14 are rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 1 above, and further in view of Microsoft Winsock Direct and Protocol Offload on SANs, 03/03/2001 ("Microsoft").

Claim 21 is rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 18 above, and further in view of Official Notice (“ON”).

Claim 22 is rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 18 above, and further in view of USPP 2002/0041566 (“Yang”).

Claims 5-8 and 24-28 are rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 1 above, and further in view of USPP 2003/0046330 (“Hayes”).

Claim 29-31 are rejected under 35 USC 103(a) as being unpatentable over Boucher, and further in view of Callaghan (NFS over RDMA) (“Callaghan”).

## **I. RESPONSE TO EXAMINER’S ARGUMENTS**

The Examiner, in page 2 of the 3/13/09 Office Action, disagrees with the Applicant’s argument that Boucher does not disclose or suggest “a processor operable to process a plurality of different types of network traffic,” as recited by the Applicant in claim 1. The Examiner repeats the argument that Boucher’s INIC is capable of differentiating a plurality of network protocols for fast or slow path processing (see Boucher’s Fig. 3 and at col. 6, lines 32-55). Specifically, the Examiner argues that Boucher’s disclosure of “determining whether the

packets packet has header bytes denoting particular protocols, such as (TCP/IP or SPX/IPX)” constitutes “different types of network traffic”. In other words, **the Examiner equates the different protocols to different network traffic types.**

The Applicant respectfully disagrees, and points out that **the TCP/IP or SPX/IPX are protocols of different versions, but they still belong to the same TCP network traffic type.** For example, the Examiner is referred to Boucher in the following citation:

**“A large TCP/IP message** such as a file transfer may be received by the host from the network in a number of separate, approximately 64 KB transfers, each of which **may be split into many, approximately 1.5 KB frames or packets for transmission over a network.** Novel NetWare protocol suites running Sequenced Packet Exchange Protocol (**SPX**) or NetWare Core Protocol (NCP) over Internetwork Packet Exchange (**IPX**) work in a similar fashion. **Another form of data communication which can be handled by the fast-path is Transaction TCP** (hereinafter T/TCP or TTCP), **a version of TCP** which initiates a connection with an initial transaction request after which a reply containing data may be sent according to the connection, rather than initiating a connection via a several message initialization dialogue and then transferring data with later messages. **In any of the transfers typified by these protocols, each packet conventionally includes a portion of the data being transferred, as well as headers for each of the protocol layers and markers for positioning the packet relative to the rest of the packets of this message”**

See Boucher at col. 6, lines13-32 (emphasis added). Boucher, in the above citation, discloses that large TCP/IP messages are split into smaller packets **for transmission over a network in several protocol versions**, such as **the SPX/IPX or the TTCP** (i.e., fast path packets). However, the **SPX/IPX or**

**the TTCP are still of the same TCP/IP network traffic type**, except typified by different protocols for transfer over the TCP/IP network traffic. Therefore, packets with matching CCB headers for fast path processing, or non-matching CCB for conventional path (slow path) processing, belong to the same TCP/IP network traffic type. The Applicant maintains that Boucher still does not disclose or suggest “each of said plurality of **different types of network traffic** corresponds to a different network protocol,” as recited in Applicant’s claim 1.

Furthermore, the Examiner argues that Boucher’s Fig. 9 discloses each of the four hardware logic 250, 260, 262 and 264 (i.e., MACs) at the input could differentiate fast path or slow path type packets. However, this argument still does not overcome the fact that each hardware logic (i.e., MACs) represents a separate physical connector in receiving packets from the network. In this regard, Boucher’s Fig. 9 discloses that the processor 230 is coupled to all four separate physical connectors. Therefore, Boucher still does not disclose or suggest the Applicant’s claim limitation of “**a processor coupled to the network connector ... to process a plurality of different types of network traffic**,” as recited in Applicant’s claim 1.

Independent claim 18 is similar in many respects to claim 1, and is therefore also submitted to be allowable. The Applicant respectfully requests that the rejection of independent claims 1 and 18 under 35 U.S.C. § 102(e) be withdrawn.

Claim 24 is not rendered obvious by the combination of Boucher and Hayes, since the combination fails to disclose or suggest at least the limitation of "handling a plurality of different types of network traffic via a single Ethernet connector," as recited in claim 24 by the Applicant. The Applicant respectfully requests that the rejection to claim 24 under 35 U.S.C. § 103(a) be withdrawn.

Likewise, claim 29 is not rendered obvious by the combination of Boucher and Callaghan, since the combination fails to disclose or suggest at least the limitation of "handling a plurality of different types of network traffic via a single PCI bridge," as recited in claim 29 by the Applicant. The Applicant respectfully requests that the rejection to claim 29 under 35 U.S.C. § 103(a) be withdrawn.

## **II. OBJECTION TO CLAIM 29**

Claim 29 is objected to for allegedly having the claim body indistinguishable from the preamble. The Applicant has amended claim 29, as set forth above, to obviate the objection. The Applicant submits that the preamble is now distinguished from the claim body, and respectfully requests the objection to claim 29 be withdrawn.

## **III. REJECTION TO CLAIMS 29-31 UNDER 35 U.S.C. § 101**

Claims 29-31 are rejected under 35 USC 101 for allegedly directing to non-statutory subject matter. More specifically, the Examiner alleges that a driver per se is non-statutory subject matter, since a driver can just contain computer program codes.

The Applicant respectfully disagrees and points out that claim 29 recites “**a computer program executable on a computer system**, ... wherein the at least one code section **causes the computer system to perform steps**” is directed to steps performed by “**the computer system**”, which is statutory subject matter and therefore patentable. Nevertheless, to further prosecution, the Applicant has amended claim 29 to recite “...executing said at least one code section from said unified driver **in said computer system** ...” The Applicant submits that claim 29 further clarifies that the unified driver executes the program codes **in the computer system**, which is statutory subject and is patentable. The Applicant respectfully requests that the rejection to claim 29 under 35 USC 101 be withdrawn. Likewise, claims 30-31 depend from claim 29, are submitted to be patentable.

#### **IV. REJECTION UNDER 35 U.S.C. § 102(e)**

MPEP 2131 states:

“[a] claim is anticipated only if **each and every element** as set forth in the claim is found, either expressly or inherently described,

in a single prior art reference.” See MPEP at 2131 (internal citation omitted). Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” See *id.* (internal citation omitted).

**A. Boucher Does Not Anticipate Claim 1-4, 15-20 and 23**

The Applicant turns to the rejection of claims 1-4, 15-20 and 23 under 35 U.S.C. § 102(e) as being anticipated by Boucher. Without conceding that Boucher qualifies as prior art under 35 U.S.C. 102(e), the Applicant respectfully traverses this rejection as follows.

**A(1) Independent Claims 1 and 18**

With regard to the rejection of independent claim 1 under 35 U.S.C. § 102(e), the Applicant submits that Boucher does not disclose or suggest at least the limitation of “**a processor coupled to the network connector, the processor operable to process a plurality of different types of network traffic, wherein each of said plurality of different types of network traffic corresponds to a different network protocol,**” as recited in the Applicant’s claim 1.

In the Office Action, the Examiner asserts Boucher discloses the following:

“a processor coupled to the network connector (fig. 13, microprocessor 470, col. 16 line 62-col. 17 line 13), the processor being operable to process a plurality of different types of network traffic (abstract, col. 3 lines 35-67, col. 13 lines 24-35, the intelligent network interface card INIC’s processor supports an offload traffic via fast path and regular IP traffic via a slow path)”

See the Office Action in pages 5-6. The Examiner relies for support citing the following:

“A network processor 230 determines, based on that summary and a comparison with any CCBs stored in the INIC 200, **whether to send a packet along a slow-path 231** for processing by the host. A large majority of packets can avoid such sequential processing and have their data portions sent by DMA along a fast-path 237 directly to the data destination 222 in the server according to a matching CCB.”

See Boucher at col. 13, lines 24-30, and FIG. 9. The Examiner in the response to arguments section relies on Boucher's Fig. 9, col. 6 lines 39-55, alleging that Boucher discloses **different protocols**, i.e., SPX/IPX, TTCP for fast path packets, thus alleging **different types of network traffic**. The Applicant respectfully disagrees, and refers the Examiner to the arguments in the Response to Examiner's Arguments in Section I above, that Boucher discloses that the SPX/IPX, TTCP are merely different versions of TCP protocols for transfer, but of the same network traffic type, i.e., the TCP/IP network traffic type. In this regard, Boucher does not disclose or suggest “each of said plurality of **different traffic types of network traffic** corresponds to a different **network protocol**,” as stated in the Applicant's claims 1 and 18.

Likewise, the Applicant maintains that Boucher's Fig. 9 discloses that the processor 230 is coupled to four separate hardware logic 250, 260, 262 and 264 (i.e., MACs) as four separate network connectors. In this regard, Boucher does



not disclose or suggest “**a processor coupled to the network connector ... to process a plurality of different types of network traffic,**” as recited in Applicant’s claim 1.

Likewise, independent claim 18 is similar in many respects to claim 1, and therefore is also submitted to be allowable. The Applicant respectfully requests that the rejection of independent claims 1 and 18 under 35 U.S.C. § 102(e) be withdrawn.

Furthermore, the Applicant reserves the right to argue additional reasons beyond those set forth herein to support the allowability of the independent claims 1 and 18 should such a need arise.

**A(2) Dependent Claims 2-4, 15-20 and 23**

Based on at least the foregoing, the Applicant believes the rejection of the independent claims 1 and 18 under 35 U.S.C. § 102(e) as being anticipated by Boucher has been overcome and should be withdrawn. The Applicant submits that claims 2-4, 15-20 and 23 depend directly or indirectly from the independent claims 1 and 18, and are, consequently, also respectfully submitted to be allowable, and requests that the rejection under 35 U.S.C. § 102(e) be withdrawn.

In addition, regarding claim 3, the Applicant has reviewed the Examiner's citation in Boucher's abstract, col. 3, lines 35-67, and col. 13, lines 24-35, and points out that Boucher discloses only one type of Ethernet traffic, i.e. the offload traffic by fast path (via the INIC processor and DMA controller) or slow path (via the host protocol stack). **Boucher simply does not disclose other network traffic types, namely, the storage traffic, IPC, management traffic and RDMA traffic, as alleged by the Examiner.** Claim 3 is submitted to be allowable based at least on this rationale. Claim 19 is allowable for at least the same rationale as discussed with respect to claim 3.

In addition, regarding claim 15, the Applicant refers the Examiner to the same argument set forth above with respect to claim 1, that the fast path and the slow path traffic are not different network traffic types. Claim 15 is submitted to be allowable based at least on this rationale. Claims 17 and 23 is allowable for the same rationale discussed with respect to claim 1 and 18 respectively.

The Applicant reserves the right to argue additional reasons beyond those set forth herein to support the allowability of dependent claims 2-4, 15-20 and 23 should such a need arise.

**V. REJECTION UNDER 35 U.S.C. § 103**

In order for a *prima facie* case of obviousness to be established, the Manual of Patent Examining Procedure, Rev. 6, Sep. 2007 (“MPEP”) states the following:

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that “rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”

See the MPEP at § 2142, citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), and *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval). Further, MPEP § 2143.01 states that “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art” (citing *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007)). Additionally, if a *prima facie* case of obviousness is not established, the Applicant is under no obligation to submit evidence of nonobviousness:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See MPEP at § 2142.

**A. The Proposed Combination of Boucher and Kistler, Does Not Render Claims 10 and 11 Unpatentable**

Claims 10 and 11 are rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 1 above, and further in view of Kistler.

Based on at least the foregoing, the Applicant believes the rejection of the independent claims 1 and 18 under 35 U.S.C. § 102(e) as being anticipated by Boucher has been overcome and should be withdrawn. Kistler does not overcome Boucher's deficiency in disclosing the Applicant's limitation. The Applicant submits that claims 10-11 depend directly or indirectly from the independent claim 1, and are, consequently, also respectfully submitted to be allowable, and requests that the rejection under 35 U.S.C. § 103(a) be withdrawn.

**B. The Proposed Combination of Boucher and Microsoft, Does Not Render Claims 12 - 14 Unpatentable**

Claims 12-14 are rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 1 above, and further in view of Microsoft.

Based on at least the foregoing, the Applicant believes the rejection of the independent claims 1 and 18 under 35 U.S.C. § 102(e) as being anticipated by Boucher has been overcome and should be withdrawn. Microsoft does not overcome Boucher's deficiency in disclosing the Applicant's limitation. In addition, the Applicant submits that claims 12-14 depend directly or indirectly from the independent claim 1, and are, consequently, also respectfully submitted to be allowable, and requests that the rejection under 35 U.S.C. § 103(a) be withdrawn.

**C. The Rejection of Claim 21 Using Official Notice**

Claim 21 is rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 18 above, and further in view of Official Notice (hereinafter "ON").

The Examiner states the following in page 10 of the Office Action:

Boucher does not disclose employing time division multiplexing to determine which of the different types of network traffic access the software services via the single data path.

However, **Official Notice is taken** that it is well known in the art how to employ time division multiplexing (TDM) to transmit multiple traffics over one channel in different timeslots. Microsoft Computer Dictionary (fifth edition) defines time division multiplexing as a form of multiplexing in which transmission time is broken into segments, each of which carries one segment of one signal or traffic type.

The Applicant points out that the Examiner has cited Microsoft Computer Dictionary (fifth edition) in support of the Official Notice and to show TDM to transmit segments of one signal or traffic. However, the cited definition is not applicable in the present instance as it does not read on the Applicant's "employing time division multiplexing to determine which of the different types of network traffic access the software services via the single data path".

The Office Action is asserting Official Notice that employing time division multiplexing (TDM) to transmit multiple traffics over one channel in different timeslots is common knowledge. The Applicant respectfully traverses the perceived and explicit assertions of Official Notice as further set forth below. Alternatively, if the Office Action's assertions are based on the personal knowledge of the Examiner, then under MPEP § 2144.03(C) and 37 C.F.R. § 1.104(d)(2), the assertions must be supported by an affidavit from the Examiner.

According to MPEP § 2144.03(A), Official Notice, without supporting references, should **only** be asserted when the subjects asserted to be common knowledge are "capable of instant and unquestionable demonstration as being well-known." That is, the subjects asserted must be of "notorious character" under MPEP § 2144.03(A). However, **the Applicants respectfully submit that the subject matter of the perceived and explicit assertions of Official Notice is not well-known in the art as evidenced by the searched and cited prior art. The Applicant respectfully submits that the Examiner has performed "a**

**thorough search of the prior art,” as part of the Examiner’s obligation in examining the present application under MPEP § 904.02. Additionally, the Applicant respectfully submits that the Examiner’s searched and cited references found during the Examiner’s thorough and detailed search of the prior art are indicative of the knowledge commonly held in the art. However, in the Examiner’s thorough and detailed search of the relevant prior art, none of the prior art taught or suggested the subject matter of the perceived and explicit assertions of Official Notice.** That is, the Examiner’s thorough and detailed search of the prior art has failed to yield any mention of the limitation in claim 21, which the Office Action concedes are not explicitly found in the references, and which the Examiner asserts are widely known in the art. The Applicant respectfully submits that if the subject matter of these assertions of Official Notice had been of “notorious character” and “capable of instant and unquestionable demonstration as being well-known” under MPEP § 2144.03(A), then the subject matter would have appeared to the Examiner during the Examiner’s thorough and detailed search of the prior art.

If the Examiner had found any teaching of relevant subject matter, the Examiner would have been obligated to list the references teaching the relevant subject matter and make a rejection. Consequently, the Applicant respectfully submits that the prior art does not teach the subject matter of the perceived

assertion of Official Notice and respectfully traverses the perceived assertion of Official Notice.

The Applicants specifically challenge the perceived and explicit assertions of Official Notice with regard to claim 21. As stated above, the Applicant respectfully traverses the perceived and explicit assertions of Official Notice and submits that the subject matter is not of such "notorious character" that it is "capable of instant and unquestionable demonstration as being well-known." Under MPEP 2144.03, the Examiner is now obligated to provide a reference(s) in support of the assertions of Official Notice if the Examiner intends to maintain any rejection based thereon. Additionally, the Applicant respectfully requests the Examiner reconsider the assertion of Official Notice and provide any basis for the assertions of Official Notice.

The Applicant submits that claim 21 is allowable. In addition, based on at least the foregoing, the Applicant believes the rejection of the independent claims 1 and 18 under 35 U.S.C. § 102(e) as being anticipated by Boucher has been overcome and should be withdrawn. The Applicant submits that claim 21 depends directly or indirectly from independent claim 18, and is, consequently, also respectfully submitted to be allowable, and requests that the rejection under 35 U.S.C. § 103(a) be withdrawn.



**D. The Proposed Combination of Boucher and Yang Does Not Render Claim 22 Unpatentable**

Claim 22 is rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 18 above, and further in view of Yang.

Based on at least the foregoing, the Applicant believes the rejection of the independent claims 1 and 18 under 35 U.S.C. § 102(e) as being anticipated by Boucher has been overcome and should be withdrawn. Yang does not overcome Boucher's deficiency in disclosing the Applicant's limitation. In addition, the Applicant submits that claim 22 depends directly or indirectly from independent claim 18, and is, consequently, also respectfully submitted to be allowable, and requests that the rejection under 35 U.S.C. § 103(a) be withdrawn.

**E. The Proposed Combination of Boucher and Hayes Does Not Render Claims 5-8 and 24-28 Unpatentable**

Claims 5-8 and 24-28 are rejected under 35 USC 103(a) as being unpatentable over Boucher, as applied to claim 1 above, and further in view of Hayes.

Regarding the rejection of independent claim 24, the Applicant submits that the same rationale supporting the allowability of claim 1 is applicable, that the fast path and slow path packets handled by Boucher's MAC 402 are not

different network traffic types. Hayes does not overcome Boucher's deficiency in disclosing the Applicant's limitation. Based on at least the foregoing, the Applicant believes the rejection of the independent claim 24 under 35 U.S.C. § 103(a) as being anticipated by Boucher in view of Hayes has been overcome and should be withdrawn. In addition, the Applicant submits that claims 5-8 and 25-28 depend directly or indirectly from the independent claims 1 and 24, and are, consequently, also respectfully submitted to be allowable, and requests that the rejection under 35 U.S.C. § 103(a) be withdrawn.

**F. The Proposed Combination of Boucher and Callaghan Does Not Render Claims 29-31 Unpatentable**

Claims 29-31 are rejected under 35 USC 103(a) as being unpatentable over Boucher, and further in view of Callaghan.

Regarding the rejection of independent claim 29, the Applicant submits that the same rationale supporting the allowability of claim 1 is applicable, that the fast path and slow path packets handled by the PCI bridge 157 and INIC miniport driver 306 are not different network traffic type. Callaghan does not overcome Boucher's deficiency in disclosing the Applicant's limitation. Based on at least the foregoing, the Applicant believes the rejection of the independent claim 29 under 35 U.S.C. § 103(a) as being anticipated by Boucher in view of Callaghan has been overcome and should be withdrawn. In addition, the

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Applicant submits that claims 30-31 depend from the independent claim 29, and are, consequently, also respectfully submitted to be allowable, and requests that the rejection under 35 U.S.C. § 103(a) be withdrawn.

Furthermore, the Applicant reserves the right to argue additional reasons beyond those set forth herein to support the allowability of claims 5-14, 21-22 and 24-31 should such a need arise.

**CONCLUSION**

Based on at least the foregoing, the Applicant believes that all claims 1-31 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and requests that the Examiner telephone the undersigned Patent Agent at (312) 775-8093.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

Date: June 15, 2009

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